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02/15/2005 08:53 AM

To Brad Jackson/R4/USEPA/US@EPA
cc Lisa_Conti@doh.state.fl.us, pac4@cdc.gov, michael.sole@dep.state.fl.us
bcc
Subject

Brad - Attached is a suggested plan that could be used post-screening in affected residential areas. It has been reviewed by our division folks as well as staff in ATSDR. We feel it is a reasonable approach that should be considered in this situation. Would you please review and let us know your thoughts on this approach as soon as possible. If you have any questions, please give me a call. Thanks Bill

<<residential plan.doc>>

How are we doing? Please take our survey: http://www.doh.state.fl.us/environment/radiation/survey.htm

Mission: To promote and protect the health and safety of all people in Florida through the delivery of quality public health services and promotion of health care standards.

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residential plan.doc

Residential Survey Plan

Residential properties that are in areas that exceed 30 uR/hr above background* during the screening flyover would be offered an on-site gamma and radon survey by the Environmental Protection Agency.

The survey would include outdoor and indoor gamma surveys using accepted techniques and instruments, and using methods equivalent to the federal Multi-Agency Radiological Site Survey Investigation Manual (MARSSIM). The radon survey would include 2 radon canisters per structure following accepted measurement techniques.

The National Council on Radiation Protection (NCRP) has carefully considered the risks associated with exposure to naturally occurring radiation and weighed these risks against the societal impacts and costs of remediating these risks. NCRP report 116, "Limitation of Exposure to Ionizing radiation," recommends remedial action levels for exposure to naturally occurring radiation for members of the general public. These levels are chosen such that the greatest risks are avoided but the societal impacts are not excessive. NCRP guidance on this subject is as follows.

1. It is recommended that remedial action for radon be undertaken when the total exposure to radon decay products for an individual exceeds an annual average of 7×10^{-3} Jh m^{-3}.[a]
2. It is recommended that remedial action be undertaken when continuous exposures from natural sources, excluding radon, are expected to exceed five times the average, 5 mSv annually.[b]

[a] A radon daughter concentration of 7×10^{-3} Jh m^{-3} is the equivalent of 8 pCi per liter of radon at 50% equilibrium with its daughter products.
[b] 5 mSv is equivalent to 500 millirem.

Indoor and outdoor gamma exposure will be assessed and a deep dose equivalent will be calculated based on the maximally exposed individual at the residence. An indoor air radon survey will be performed in each residence. The following graded approach will be used regarding remediation options:

<u>Gamma Exposure</u>

Below 100 mrem/yr – No action required.

100 – 500 mrem/yr – Assessment will be provided to the homeowner along with possible suggestions to reduce exposures if they choose.

Above 500 mrem/yr – EPA will perform necessary remediation.

Radon Exposure

Below 4 pCi/l – No action required.

4 – 8 pCi/l – Results will be provided to the homeowner with recommendation to perform radon mitigation.

Above 8 pCi/l – EPA will perform necessary remediation.

* Background gamma exposure will be determined over similar central Florida non-mined lands.